

REMARKS

Claims 1, 3-25, 27-30, 32-42, 44-48, 50-60 and 62-64 are currently pending in the subject application and are presently under consideration. Claim 64 has been amended to further emphasize various novel aspects of the invention.

A message was left conveying our arguments on October 31, 2007. The main focus of the message was on deficiencies of the 101 rejection(s). Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1, 3-25, 27-30, 32-42, 44-48, 50-60 and 62-64 Under 35 U.S.C. §101

Claims 1, 3-25, 27-30, 32-42, 44-48, 50-60 and 62-64 stand rejected under 35 U.S.C. §101 are not limited to practical applications. Withdrawal of this rejection is requested for at least the following reasons. Claims 1, 3-25, 27-30, 32-42, 44-48, 50-60, and 62-64 produce a useful, concrete and tangible result.

Because the claimed process applies the Boolean principle [abstract idea] ***to produce a useful, concrete, tangible result*** ... on its face the claimed process comfortably falls within the scope of §101. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed. Cir. 1999) (Emphasis added); *See State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed.Cir.1998). The inquiry into patentability requires an examination of the contested claims to see if the claimed subject matter, as a whole, is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," or if the mathematical concept has been ***reduced to some practical application rendering it "useful."*** *AT&T* at 1357 citing *In re Alappat*, 33 F.3d 1526, 31 1544, 31 U.S.P.Q.2D (BNA) 1545, 1557 (Fed. Cir. 1994) (emphasis added).

Applicants' claimed invention relates generally to systems and methods that facilitate building a model to characterize data based on an appropriately sized subset of the computer readable data set. In particular, independent claim 1 (and similarly independent claims 19, 30, 42, 44, 53, 54, 62-64) recites a computer implemented system that facilitates building a statistical model for a computer readable data set, comprising *a first training algorithm that efficiently builds a rough statistical model from a subset of the computer readable data set capable of*

*statistical characterization, an evaluation component that **evaluates** the rough statistical model to determine whether the subset of the computer readable data set is an **appropriate subset** to build a statistical model for the computer readable data set, a second training algorithm that builds a refined statistical model for the computer readable data set from the subset if deemed appropriate by the evaluation component, **the refined statistical model discovers good clustering of data for a fixed number of clusters and a data scheduler that, based on a data policy**, adaptively controls the size of subsets for which the first training algorithm is applied to facilitate building a more accurate statistical model.*

In particular, independent claim 1 recites acts that construct a refined statistical model from statistically characterizable data in a computationally economic way and **utilizing** the refined statistical model to **identify** clusters of data within the data set. Similar limitations of “accurate model employed to **identify clusters of data** within the computer readable data set,” “refined statistical model **identifies data clusters** contained in the computer readable data set,” “utilizing the refined statistical model to **identify identifiable clusters** in the computer readable data set,” “second training policy utilized **to characterize at least one cluster** within the computer readable data,” “utilizing the estimated model parameters determined by utilization of the second training policy **to identify a cluster in the** computer readable data,” “using the better quality model relative to the computer readable data to **identify at least a cluster of data** within the computer readable data,” “**identifying a good clustering of data relative** to the computer readable data,” “**identifying a cluster of data** within the computer readable data set based in part on the refined statistical model,” and “**determining a cluster of data** contained in the computer readable data set based on the more accurate estimation of statistical model parameters,” are recited in independent claims 19, 30, 42, 44, 53, 54, and 62-64 respectively.

One of ordinary skill in the art will appreciate that data clustering refers to partitioning the data into a subset (clusters), so that the data in each subset share some common trait. Therefore, any system that performs the operation of taking a particular data set and partitioning the data set into clusters of data having a common trait is clearly producing a useful, concrete and tangible result. Accordingly, the claimed invention which provides for computationally efficient construction, from a data set, of a statistical model employable to statistical analysis of the characterized data set features to generate a refined statistical model and utilize the refined model to cluster the data set is producing a useful, concrete and tangible result.

In addition, the claimed subject does not manipulate abstract data but rather builds a useful statistical model from statistically characterizable data, wherein the constructed statistical model is employable to further analysis (*e.g.*, data clustering) of the underlying population or phenomena, which the computer readable data set represents and the model characterizes.

In view of at least the foregoing, it is readily apparent that the Applicants' claimed invention produces a useful, concrete and tangible result. Accordingly, withdrawal of this rejection is requested.

II. Rejection of Claims 1, 3-25, 27-30, 32-42, 44-48, 50-60 and 62-64 Under 35 U.S.C §112

Claims 1, 3-25, 27-30, 32-42, 44-48, 50-60 and 62-64 stand rejected under 35 U.S.C §112, first paragraph, because current case law require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed how to practice the undisclosed practical application. This rejection should be withdrawn for at least the following reasons. As stated above, independent claims 1, 19, 30, 42, 44, 53, 54, and 62-64 have been amended to further emphasize aspects of the claimed subject matter. Accordingly, this rejection should be withdrawn.

III. Rejection of Claims 1, 19, 30, 42 and 64 Under 35 U.S.C. §102(b)

Claims 1, 19, 30, 42 and 64 stand rejected under 35 U.S.C. §102(b) as being anticipated by Guha *et al.* (US 5,140,530). Withdrawal of this rejection is requested for at least the following reasons. Guha *et al.* does not disclose or suggest all limitations set forth in the subject claims.

For a prior art reference to anticipate, 35 U.S.C. §102 requires that “*each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

Independent claims 1 (and similarly independent claims 19, 30, 42, and 64), in part,

recites *the refined statistical model discovers good clustering of data for a fixed number of clusters and a data scheduler that, based on a data policy*. Guha *et al.* fails to disclose or suggest any such clustering of data.

Rather, Guha *et al.* relates to genetic learning techniques to evolve neural network architectures for applications where a general representation of neural network architecture is linked with a genetic learning strategy creating an environment for the construction of custom neural networks. However, Guha *et al.* is silent with respect to construction, from a data set, of a statistical model and refining the statistical model and utilizing the refined model to cluster the data set.

Furthermore, independent claim 64, as amended, in part recites *means for setting parameters associated with cluster weights of a cluster of data*. Guha *et al.* fails to disclose or suggest such novel aspects.

Based on at least the foregoing, Guha *et al.* fails to anticipate each and every element of the claimed subject matter as recited in independent claims 1, 19, 30, 42, and 64 (and claims which depend there from). Therefore, this rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP184US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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